Sept. 27, 1932. L. R. N. CARVALHO 1,879,082

CLOSURE

Filed Nov. 3, 1930

Fig. 1.

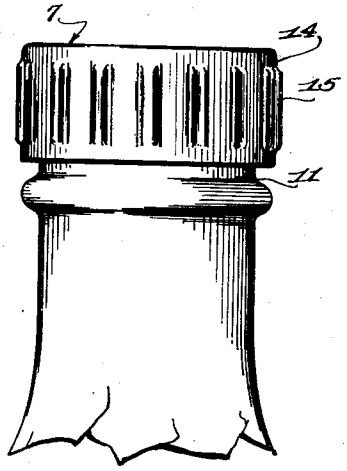
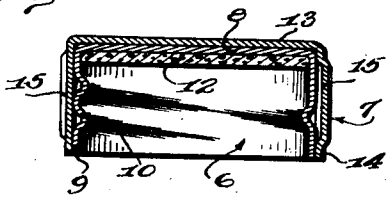


Fig. 2.



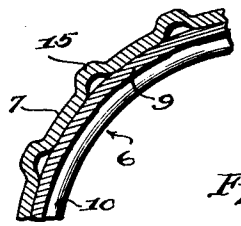


Fig. 3.

Fig. 4.

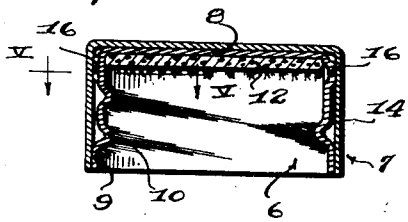
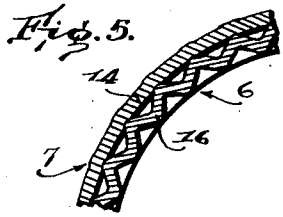


Fig. 5.



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Patented Sept. 27, 1932 1,879,082

UNITED STATES PATENT OFFICE

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CLOSURE

Application filed November 3, 1930. Serial No. 492,978.

The present invention relates to improvements in closures for bottles and jars and more particularly to that type of closure or cap which is formed from sheet metal and includes an attaching flange with threads or other means for engaging the neck portion of the bottles or jars.

In order to improve the general appearance of the metal caps of the above character, plain outer caps or covers have been placed over the threaded cap or closure in a manner to obscure from view the threads or other attaching means. Thus there has been provided a closure comprising inner and outer caps between which relative rotary movement has been to some extent prevented by frictional contact of the skirt or flange portions. Some difficulty has been encountered in this latter respect with the result that frequently during application of the closures to containers and removal thereof, the outer cap rotates relative to the inner cap resulting in the necessity of removing the inner and outer caps one at a time. This is, of course, highly objectionable.

An object of the present invention is the provision of novel means for positively securing the inner and outer caps against relative rotary movement and in some instances, incidentally improving the general appearance of the closure as compared with double caps heretofore manufactured. To this end there is provided an annular series of vertical hollow ribs in the attaching flange of either the inner or outer cap, by means of which the rigidity of the flange is materially increased and a sufficient degree of frictional contact between the flanges obtained to positively prevent relative rotary movement between the two caps. By properly forming the ribs on the flange or skirt portions of the outer cap, the general appearance of the cap as a whole is greatly improved.

In the drawing:

Fig. 1 is a fragmentary elevational view showing the bottle closure embodying the present invention.

Fig. 2 is a vertical sectional view of the closure.

Fig. 3 is a fragmentary horizontal sectional view taken through the flanges of both caps.

Fig. 4 is a vertical sectional view showing another form of the invention.

Fig. 5 is a sectional view taken substantially along the line V—V of Fig. 4.

In one form of the invention (Figs. 1, 2, and 3,) the closure consists of inner and outer caps 6 and 7 respectively, both of which may be stamped from sheet metal. The inner cap 6 includes a circular top portion 8 or button and a depending circular attaching flange 9 which in the present instance is provided with screw threads 10 intended to engage threads, knobs, or the like, (not shown) on the neck 11 of a receptacle. A liner 12 or sealing gasket may be carried by the inner cap 6.

For the purpose of obscuring the threads 10 from view and generally improving the appearance of the closure, and incidentally giving it at least some degree of ornamentality, the outer cap 7 is telescoped over the inner cap 6 and attached in a manner which prevents relative rotation of the caps. This outer cap 7 includes top and skirt or flange portions 13 and 14 respectively, the latter being coextensive with the attaching flange 9 on the inner cap. Relative rotation of the two caps is prevented, and a finished ornamental appearance given the closure as a whole, by forming an annular series of vertical hollow ribs 15 in the flange 14 or skirt portion of the outer cap. These ribs 15 project radially outward beyond the exposed surface of the outer cap and are so formed that they result in the production of an outer cap whose internal diameter is slightly less than the diameter of the inner cap. Thus, when the outer cap is telescoped over the inner cap, the ribs, which are hollow, allow the skirt or flange portion of the outer cap to expand sufficiently to permit such telescoping, yet exerting such a contracting pressure on the flange that the frictional contact between the flanges of the inner and outer caps is great enough to positively prevent relative rotation of the caps at all times. These ribs also materially stiffen the flange 14 and thereby contribute to the

formation of an exceptionally substantial closure.

In Figs. 4 and 5, another form of the invention is shown in which the attaching flange 9 of the inner cap 6 is provided with an annular series of comparatively short vertical hollow ribs 16 arranged quite close together and adapted to engage the inner surface of the skirt or flange 14 on the outer cap 7. In this form the ribs in a sense assume the form of corrugations and are disposed between the threaded area of the attaching flange 9 and the top or button 8 thereof. Preferably, these ribs or corrugations are so formed that when the inner and outer caps are assembled, portions of the ribs project a short distance into the metal forming the skirt 14 of the outer cap. This feature is shown in a somewhat exaggerated form in Fig. 5 in order to bring out that such engagement between the inner and outer caps is effected so that relative rotation between the inner and outer caps is prevented.

By embodying either construction herein set forth, in a bottle or jar closure, the threads or other attaching means will be completely obscured from view and at the same time the outer cap or cover positively held in place and against rotation relative to the inner cap during removal or application of the closure.

Modifications may be resorted to within the spirit and scope of the appended claims.

What I claim is:

1. In combination, a metal closure comprising inner and outer caps telescoped one within the other, each cap including circular top anl depending flange portions, and means formed on the flange of the inner cap to provide part of a connection between the closure and a container to be sealed, one of said flanges having preformed ribs extending transversely thereof and operating to hold the caps against relative rotation.

2. A closure comprising a circular top portion, a threaded circular flange depending therefrom, a cover arranged over the exterior surface of the flange, and preformed ribs extending in a direction transverse to the length of said flange for causing sufficient frictional contact between the cover and flange to hold them against relative rotation.

3. A closure comprising inner and outer caps, each cap including a circular top and a depending skirt portion, attaching threads on the skirt of the inner cap, and an annular series of outwardly projecting vertical ribs formed on the skirt of the inner cap between the threads and the top portion, said ribs frictionally engaging the adjacent faces of the outer cap and holding said caps against relative rotation.

4. A closure comprising a circular top portion, a threaded circular flange depending therefrom, a cover including a circular flange adapted to surround said threaded circular flange, and an annular series of outwardly projecting hollow ribs extending transversely of the flange on the cover, said ribs being yieldable and causing a sufficient degree of frictional contact of those areas of the cover between the ribs with the threaded flange to hold said flanges against relative rotation.

5. A closure comprising a circular top portion and a flange depending from the margin thereof, said flange having screw threads thereon, a cover including a circular flange adapted to surround the threaded flange, and an annular series of hollow ribs extending transversely and substantially the entire width of the flange on the cover, said ribs being hollow and yieldable and formed to create such frictional contact of the areas between the ribs with the threaded flange that said flanges are held against relative rotation.

Signed at Toledo, Ohio, this 31 day of October, 1930.

LESLIE R. N. CARVALHO.